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Enhanced Usage of S1000D Applicability in Relation to S3000L Product Configuration Management

Component Maintenance Publications (CMPs) according to ATA Spec 1000BR_4.2

Name of Presenter: **Mr Gernot KOLLER**
Rank/title of presenter: Lead IPS Engineer - Technical Publications Manager
Company/Organization: **FACC Operations GmbH** {FACC}

Abstract-No: **A#19**

FACC OPERATIONS GMBH

- **FACC OPERATIONS GMBH is an internationally renowned aeronautics supplier**

- **3 divisions: Aerostructures, Engines & Nacelles and Cabin Interiors**

- **Part of the AVIC Group**

- **Production of composite light-weight components for various commerical aircraft OEMs like AIRBUS, BOEING, BOMBARDIER, COMAC, EMBRAER, DASSAULT, etc.**

- **IPS department produces state-of-the-art structured Interactive Electronic Technical Documentation (IETD) as part of the Integrated Product Support (IPS)**

- **IPS department comprises RAMS/LSA, Technical Publications & Material Management and 24/7 Customer Support**

Gernot Koller

- **Diploma in Translation Studies**

- **Certified Technical Writer (tekom)**

- **Background as Technical Writer, translator and in terminology management in the intralogistics and software sector**

- **Has been working with FACC since 2014**

- **Experience in creation of several CMMs, T Files and RSPLs for multiple ATA projects**

- **ATA and S1000D knowledge**

- **FACC key user for IPS software environment**

- **TechPub project management for Airspace and Challenger 350 projects**

- **Strong focus on continuous process improvements and communication**

Contents

Initial situation

- **A3SA Airspace projects**
  - XL Bins (XB) and Ceiling Panels (CP)
  - Entrance area (later project start, using ATA Spec 1000BR_4.2 from the beginning)

- **Agreement between Airbus and FACC**
  - Start with CMMs (XB and CP) acc. to ATA iSpec 2200
  - Create CMPs acc. to ATA Spec 1000BR_4.2 once the process has been established
  - Migrate initial CMMs to ATA Spec 1000BR_4.2

- **Two large ATA CMMs (XB and CP) comprising several customers**

- **CMMs not customized**

- **Usage of Effectivities in CMM procedures and IPL**

- **Restricted readability and usability**

Objectives and challenges

- **Component Maintenance Publications (CMP) acc. to ATA Spec 1000BR_4.2**

- **Provisioning of customer-specific CMPs**

- **Material data to be provided using the Airbus Component Data Forms (CDFs)**

- **Delivery of CMPs & CDFs per HoV at a given CMP Need date well before the EIS**

- **One to two HoV deliveries (initial or revision) per week**

A	B	E	F	G	K	L	M	N	O	P	Z	AA	AB	AC	AD	AE	AJ	AK	AL
Project	ICAO	Type	Rev	CTS Issue	Tech Request (SDR)	Design Release	Design data at IPS	MDL	Design Data to IPS Supplier S/B [FACC]	Design Data to IPS Supplier IS [FACC]	DRAFT Delivery	CV Start [FACC]	CV End [FACC]	FINAL to FACC S/B	FINAL to FACC IS	FINAL to AIB [FACC]	CMP Need Date	EIS	Year of Delivery to AIB

- **CMPs and CDFs as basis of the Airbus technical publications (AMM, AIPC, RSPL)**

- **Selection of IPS software (CSDB)**

- **Selection of service provider for application engineering and content creation**

- **Weekly alignment with Airbus TechData and service provider**

Project requirements (General)

- **Customer-specific project requirements**

- **Creation of project requirements document**

- **Civil Aviation Business Rules (1000BR) for S1000D issue 4.2**

- **Data module code requirements**

- **Common Information Repository (CIR) provided by Airbus for**
  - **Consumables**
  - **Warnings & Cautions**

- **Applicability concept to be developed by FACC**

Project requirements (Deliverables 1)

- **PDF acc. to the ATA Spec 1000BR_4.2 guidelines and customer requirements:**
  - PDF Layout
  - Frontmatter
  - Change process

- **Source data**
  - Content data modules
  - Data dispatch note (DDN)
  - Publication data module (PM)
  - Data module list (DML)
  - Applicability cross-reference data module (ACT)
  - CIR Enterprise

Project requirements (Deliverables 2)

- **Illustrations (cgm)**

- **Component Data Forms (CDFs)**

	Supplier Name	Supplier	PNR	Description (ADT)	Overlength Part Number	Keyword (KWD)	Manufacturer Name	Manufacturer
1	Supplier Name	Supplier	PNR	Description (ADT)	Overlength Part Number	Keyword (KWD)	Manufacturer Name	Manufacturer
2	FACC Operations GmbH	2817N	624M80200-100	XL OVERHEAD STOWAGE COMPARTMENT 11 SPC VCC		OHSC	FACC Operations GmbH	2817N
3	FACC Operations GmbH	2817N	624M40402-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH		OHSC	FACC Operations GmbH	2817N
4	FACC Operations GmbH	2817N	624M70665-100	XL OVERHEAD STOWAGE COMPARTMENT 4F- RH		OHSC	FACC Operations GmbH	2817N
5	FACC Operations GmbH	2817N	624M40206-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH RIS		OHSC	FACC Operations GmbH	2817N
6	FACC Operations GmbH	2817N	624M40210-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH		OHSC	FACC Operations GmbH	2817N
7	FACC Operations GmbH	2817N	624M40318-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH RIS		OHSC	FACC Operations GmbH	2817N
8	FACC Operations GmbH	2817N	624M40422-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH SP YBRK		OHSC	FACC Operations GmbH	2817N
9	FACC Operations GmbH	2817N	624M40230-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH RIS		OHSC	FACC Operations GmbH	2817N
10	FACC Operations GmbH	2817N	624M40448-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH		OHSC	FACC Operations GmbH	2817N
11	FACC Operations GmbH	2817N	624M40307-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH RIS TS UP		OHSC	FACC Operations GmbH	2817N
12	FACC Operations GmbH	2817N	624M40311-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH		OHSC	FACC Operations GmbH	2817N
13	FACC Operations GmbH	2817N	624M40319-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH RIS		OHSC	FACC Operations GmbH	2817N
14	FACC Operations GmbH	2817N	624M40423-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH SP YBRK		OHSC	FACC Operations GmbH	2817N
15	FACC Operations GmbH	2817N	624M40331-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH RIS UP		OHSC	FACC Operations GmbH	2817N
16	FACC Operations GmbH	2817N	624M40235-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH		OHSC	FACC Operations GmbH	2817N
17	FACC Operations GmbH	2817N	624M50456-100	XL OVERHEAD STOWAGE COMPARTMENT 1F+ LH		OHSC	FACC Operations GmbH	2817N
18	FACC Operations GmbH	2817N	624M50257-100	XL OVERHEAD STOWAGE COMPARTMENT 1F+ RH		OHSC	FACC Operations GmbH	2817N
19	FACC Operations GmbH	2817N	624M40614-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH		OHSC	FACC Operations GmbH	2817N
20	FACC Operations GmbH	2817N	624M40615-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH		OHSC	FACC Operations GmbH	2817N
21	FACC Operations GmbH	2817N	624M40552-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH RIS		OHSC	FACC Operations GmbH	2817N
22	FACC Operations GmbH	2817N	624M40544-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH 2 XBRACKETS		OHSC	FACC Operations GmbH	2817N
23	FACC Operations GmbH	2817N	624M40449-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH TS		OHSC	FACC Operations GmbH	2817N
24	FACC Operations GmbH	2817N	624M60327-100	XL OVERHEAD STOWAGE COMPARTMENT 4F+ RH SP YBRK		OHSC	FACC Operations GmbH	2817N
25	FACC Operations GmbH	2817N	624M40345-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH		OHSC	FACC Operations GmbH	2817N
26	FACC Operations GmbH	2817N	624M20139-100	XL OVERHEAD STOWAGE COMPARTMENT 2F RH CON		OHSC	FACC Operations GmbH	2817N
27	FACC Operations GmbH	2817N	624M40434-100	XL OVERHEAD STOWAGE COMPARTMENT 4F LH		OHSC	FACC Operations GmbH	2817N
28	FACC Operations GmbH	2817N	624M10343-100	XL OVERHEAD STOWAGE COMPARTMENT 1F RH CON		OHSC	FACC Operations GmbH	2817N
29	FACC Operations GmbH	2817N	624M20241-100	XL OVERHEAD STOWAGE COMPARTMENT 2F RH RED		OHSC	FACC Operations GmbH	2817N
30	FACC Operations GmbH	2817N	624M10242-100	XL OVERHEAD STOWAGE COMPARTMENT 1F LH CON		OHSC	FACC Operations GmbH	2817N
31	FACC Operations GmbH	2817N	624M20340-100	XL OVERHEAD STOWAGE COMPARTMENT 2F LH RED		OHSC	FACC Operations GmbH	2817N
32	FACC Operations GmbH	2817N	624M20138-100	XL OVERHEAD STOWAGE COMPARTMENT 2F LH CON		OHSC	FACC Operations GmbH	2817N
33	FACC Operations GmbH	2817N	624M40453-100	XL OVERHEAD STOWAGE COMPARTMENT 4F RH RIS		OHSC	FACC Operations GmbH	2817N
34	FACC Operations GmbH	2817N	624M60326-100	XL OVERHEAD STOWAGE COMPARTMENT 4F+ LH SP YBRK		OHSC	FACC Operations GmbH	2817N
35	FACC Operations GmbH	2817N	624E20200-100	XL EC C20 LH VCC CR INBOARD		OHSC	FACC Operations GmbH	2817N

CBD | LMP | SC | SLL | TL

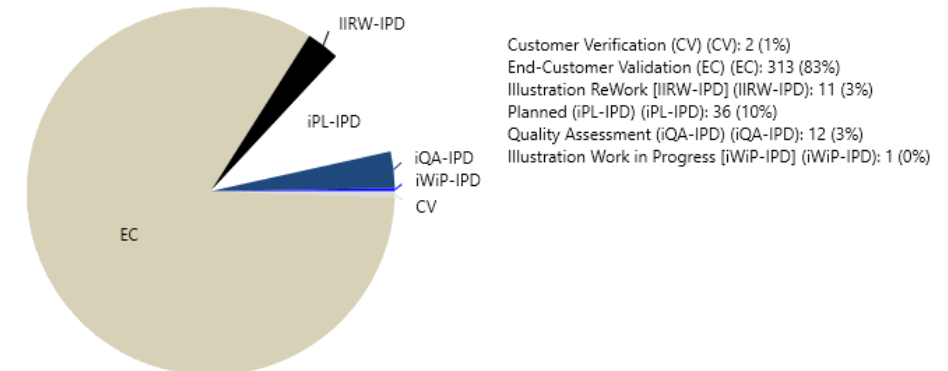# Methodology and solution approach (Overview 1)

- **Production environment including IPS authoring system in CSDB**

- **Development of a reusability and applicability concept**

- **Product configuration based on S3000L product structure requirements**

- **Management of data modules (device types) on the basis of AC-specific product configuration (HoV)**

- **Establishment of material data base to populate IPD and CDFs**

- **Integration of existing data into CSDB (e.g. MDL)**

- **Source data management in CSDB**

Methodology and solution approach (Overview 2)

- **Creation of reference documents, such as:**
  - **Illustrator guide**
  - **Editorial style guide**
  - **Lessons learnt document**
  - **…**

- **Development and steady improvement of automatic and manual validations concept**

- **3-step quality assessment**

- **Regular process, quality and project meetings**

- **Progress tracking by means of state transition model in CSDB based on work orders**

- **Continuous process improvements**

Customer Verification (CV) (CV): 2 (1%)
End-Customer Validation (EC) (EC): 313 (83%)
Illustration ReWork [IIRW-IPD] (IIRW-IPD): 11 (3%)
Planned (iPL-IPD) (iPL-IPD): 36 (10%)
Quality Assessment (iQA-IPD) (iQA-IPD): 12 (3%)
Illustration Work in Progress [iWiP-IPD] (iWiP-IPD): 1 (0%)

Pie chart labels: IIRW-IPD, iPL-IPD, iQA-IPD, iWiP-IPD, CV, EC

Methodology – Applicability

The development of the applicability concept was
crucial for the project.

- **Enhanced Device Type Applicability**
  - **Applicability on device type (based on article in CSDB) level instead of on product level (HoV)**
  - **Assignment of applicability to a data module**
  - **Inline applicability**

- **Publication**
  - **Filtering concept: CSDB detects which data modules and which sections within a data module belong to selected products (HoVs)**
  - **Product (HoV) specific delivery**

SWR11-XB			004	System		A3SX_Operators
01 - XL OVERHEAD STOWAGI 2817N	624M10042-200	A3SX	002	Physical		A3SX_XLB
02 - XL OVERHEAD STOWAGI 2817N	624M10243-200	A3SX	002	Physical		A3SX_XLB
03 - XL OVERHEAD STOWAGI 2817N	624M50257-200	A3SX	001	Physical		A3SX_XLB
04 - XL OVERHEAD STOWAGI 2817N	624M40434-200	A3SX	001	Physical		A3SX_XLB
05 - XL OVERHEAD STOWAGI 2817N	624M20138-200	A3SX	001	Physical		A3SX_XLB
06 - XL OVERHEAD STOWAGI 2817N	624M40449-200	A3SX	001	Physical		A3SX_XLB
07 - XL OVERHEAD STOWAGI 2817N	624M40652-200	A3SX	001	Physical		A3SX_XLB
08 - XL OVERHEAD STOWAGI 2817N	624M40553-200	A3SX	001	Physical		A3SX_XLB

Resumé

The following benefits have been achieved by the selected methodology:

- **Effort reduction for authoring of unchanged descriptions and procedures**

- **Focus was shifted to the product configuration which is required within the project**

- **Change process has been established using the product configuration and single source publishing**

- **High customer satisfaction has been communicated by Airbus due to in-time deliveries and good data quality**

"Human factor": Besides the high automation and digitization, it has proven that proper communication and recognition of the needs of all project team members is essential for the success of the project.

Outlook

- **Maintain high quality standards and on-time deliveries considering an increasing number of HoVs per year**

- **Further effort reduction due to increasing reusability intended**

- **Process improvements ongoing**

- **Creation of spare parts list (Master data list, MDL) within the CSDB to enhance single source publishing and strengthen data consistency**

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![ASD AeroSpace and Defence Industries Association of Europe]

![council ILS-Specification-Council]

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Thank You

for your attention!

Questions?